S.No: 11	Exp. Name: ***Write a C program to find the number of 0's and 1's in a Binary representation of a given number***	Date:2023-01-07

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Aim:

Write a **C** Program to count the number of `0's` and `1's` in a **binary** representation of a given number.

Sample Input and Output:

```
Enter a decimal number : 25
Binary number : 11001
Number of zero's : 2
Number of one's : 3
```

Source Code:

zerosOnesCount.c

```
#include<stdio.h>
#include<math.h>
int main()
{
   int num,b_num=0,once_count=0,zero_count=0,count=0;
   printf("Enter a decimal number : ");
   scanf("%d",&num);
   while(num!=0)
   {
   int rem=num%2;
   if(rem==0)
   {
   zero_count++;
   }
   else
   {
   once_count++;
   }
   int c=pow (10,count);
   b_num = b_num+ rem*c;
   num = num/2;
   count++;
}
printf("Binary number : %d\n",b_num);
printf("Number of zero's : %d\n",zero_count);
printf("Number of one's : %d\n",once_count);
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter a decimal number : 10
Binary number : 1010
Number of zero's : 2

Number of one's : 2

Test Case - 2
User Output
Enter a decimal number : 7
Binary number : 111
Number of zero's : 0
Number of one's : 3

Test Case - 3
User Output
Enter a decimal number : 4
Binary number : 100
Number of zero's : 2
Number of one's : 1

Test Case - 4
User Output
Enter a decimal number : 25
Binary number : 11001
Number of zero's : 2
Number of one's : 3

Test Case - 5
User Output
Enter a decimal number : 255
Binary number : 11111111
Number of zero's : 0
Number of one's : 8

Test Case - 6
User Output
Enter a decimal number : 201
Binary number : 11001001
Number of zero's : 4
Number of one's : 4

Test Case - 7
User Output
Enter a decimal number : 111
Binary number : 1101111
Number of zero's : 1
Number of one's : 6

Test Case - 8
User Output
Enter a decimal number : 99

Binary number : 1100011
Number of zero's : 3
Number of one's : 4